

**BY ORDER OF THE COMMANDER,  
51ST FIGHTER WING**



**51 FIGHTER WING INSTRUCTION 10-703**

**4 OCTOBER 2004**

**Operations**

**ELECTRONIC WARFARE INTEGRATED  
REPROGRAMMING PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction establishes procedures for the 51 FW to accomplish Electronic Warfare Integrated Reprogramming (EWIR) in the event of a Serene Byte (SB) or Pacer Ware (PW) and implements AFDPD 10-7, *Command and Control Warfare*. Reference AFI 10-703. This instruction applies to all units assigned to the 51 FW involved with EWIR.

**SUMMARY OF REVISIONS**

This instruction has been completely revised and reorganized to incorporate Air Force wide operations and maintenance reorganization, Defense Messaging System (DMS) procedures and the loss of Automatic Digital Network (AUTODIN) message traffic, and officially provides direct liaison between EWIR event coordinators and affected base wide organizations.

**1. General:**

1.1. The EWIR process reprograms Electronic Warfare (EW) systems rapidly and efficiently to meet changing threats. The 51 FW systems affected are the ALR-69 and ALR-56M Radar Warning Receiver (RWR), the ALQ-184 Electronic Countermeasures (ECM) Pod, the ALE-47 Countermeasures Dispenser System (CMDS), the ALQ-213 Countermeasures Set (CMS), and the ALE-50 Advanced Airborne Expendable Decoy (AAED).

1.2. This instruction only applies to the 51 FW. Tenant units stationed at Osan AB have separate procedures, but TDY units assigned to the 51 FW will comply with this instruction.

1.3. The wing will be notified of EWIR actions through a PW for real world software changes affecting combat aircraft or a SB to exercise all or part of the EWIR process. PACER WARE messages are normally generated by a Reprogramming Center (RC), but a SB may be generated by any level of the EWIR process from the RC to an event coordinator to exercise all or portions of the EWIR process.

Timeliness is a very critical element of EWIR, so the 51 FW goal is to have the first system reprogrammed within two hours of 51 OG/CC approval.

1.4. The primary event coordinator for all 51 FW EWIR is the Wing Electronic Combat Pilot (ECP). The Wing ECP's office is 51 OSS/OSP, Wing Weapons and Tactics. Alternate event coordinators are designated by the Wing ECP and certified by the 51 OG/CC, and are normally other members of OSS/OSP, the 36 FS/ECP, the 25 FS/ECP or the Wing Avionics Manager. The event coordinator is authorized to coordinate directly with all affected base organizations to facilitate an efficient and effective EWIR process. See Attachment 1 for a phone contact list.

## **2. Responsibilities in Addition to Those Directed by AFI 10-703:**

### **2.1. 51 OG/CC:**

- 2.1.1. Certifies list of alternate EWIR event coordinators and alternate 51 FW EW POC.
- 2.1.2. Determines operational impact and necessity of EWIR actions on wing tasking, and acts as the wing approval authority for EWIR actions on assigned assets.

### **2.2. 51 FW ECP:**

- 2.2.1. Is designated the primary 51 FW EW Point of Contact (POC).
- 2.2.2. Acts as the primary EWIR event coordinator.
- 2.2.3. Checks the 51 FW/PW DMS account daily for the arrival of SB/PW messages.
- 2.2.4. Changes and adapts the 51 FW EWIR process to accommodate new EW systems and meet operational needs based on redundancy and survivability.
- 2.2.5. Maintains a current list of alternate EWIR event coordinators and designates the alternate 51 FW EW POC.
- 2.2.6. Ensure alternate event coordinators have access to the 51 FW/PW DMS account.
- 2.2.7. Acts as the 51 FW Terminal Area Security Officer (TASO) for the Multi-Service Electronic Warfare Data Distribution System (MSEWDDS).
- 2.2.8. Maintains a current contact list of all organizations involved in EWIR and provides changes as applicable to all 51 FW EWIR participants.

### **2.3. Fighter Squadron:**

- 2.3.1. Ensures at least one pilot per shift is available to perform ECP duties during exercises or contingency operations. Squadron Top 3s may satisfy this requirement if trained in the squadron EWIR process by the Squadron ECP.

- 2.3.2. Maintains no less than two assigned pilots as graduates of the Fighter Electronic Combat Officers Course (FECOC) capable of acting as Squadron ECP.

### **2.4. Fighter Squadron ECP:**

- 2.4.1. Maintains a list of current PW messages for all EW systems used by their squadron.
- 2.4.2. Briefs squadron aircrew on EWIR actions and ramifications.

2.4.3. Works with associated Aircraft Maintenance Unit (AMU) specialist sections to reprogram EW systems.

2.4.4. Maintains a current Secret Internet Protocol Router Network (SIPRNET) account and the ability to download software changes from the MSEWDDS.

2.5. Maintenance Operations Center (MOC) (51 MOS/MXOOM):

2.5.1. Provides backup notification network to aid the event coordinator in the EWIR notification process.

2.5.2. Informs 51 MXG/CC of EWIR action affecting wing assets.

2.5.3. Collects and reports EWIR start and stop time information to the Wing ECP.

2.6. Wing Avionics Manager:

2.6.1. Acts as primary maintenance liaison for EWIR.

2.6.2. Identifies maintenance EWIR related deficiencies to the Wing ECP.

2.7. AMU:

2.7.1. Maintains a working SIPRNET connection for use in the EWIR process. This connection does not need to be dedicated only to EWIR, but must be made immediately available upon request.

2.7.2. Coordinates SIPRNET access for a minimum of six individuals of specialist flight.

2.7.3. Coordinates and trains a minimum of six specialist section individuals in the use of the MSEWDDS.

2.7.4. Maintains a working secure telephone that is available for use in EWIR.

2.7.5. Designs shift schedules that allow for a minimum of two individuals per shift that have MSEWDDS access.

2.7.6. Tracks start and stop times for all EWIR actions using 51 FW Form 102 (EF) and passes time information to the MOC.

2.7.7. Provides 51 FW Form 102 (EF), **25 FS/36 FS Aircraft/System Tracking Table**, upon request to the Wing ECP.

2.7.8. Reports reprogramming equipment deficiencies to the Wing Avionics Manager.

2.8. EWS Section (51 MXS/MXMVE):

2.8.1. Maintains a working SIPRNET connection for use in the EWIR process.

2.8.2. Coordinates SIPRNET access for a minimum of six individuals.

2.8.3. Coordinates and trains a minimum of six individuals in the use of the MSEWDDS.

2.8.4. Maintains a working secure telephone that is available for use in EWIR.

2.8.5. Designs shift schedules that allow for a minimum of two individuals per shift that have MSEWDDS access.

2.8.6. Helps the AMUs with reprogramming actions based on availability and equipment.

- 2.8.7. Tracks start and stop times for all EWIR actions using 51 FW Form 101 (EF), **EWS Section ALQ-184 EA POD or AIS ALR-69 RWR Tracking Table**, and passes time information to the MOC.
- 2.8.8. Provides 51 FW Form 101 upon request to the Wing ECP.
- 2.8.9. Reports reprogramming equipment deficiencies to the Wing Avionics Manager.

2.9. 51 CS/Helpdesk (51 CS/SCBBH):

- 2.9.1. Monitors the 51 FW/PW DMS account after hours and informs the Wing ECP or alternate event coordinators when high priority messages are received. The unclassified subject line will be passed to the event coordinator upon initial contact.
- 2.9.2. Contacts event coordinators in order listed on the appointment letter until reaching a designated individual.

2.10. Alternate Event Coordinators:

- 2.10.1. Maintains proficiency on DMS and EWIR procedures.
- 2.10.2. Performs EWIR actions until the Wing ECP can be contacted and handed off the EWIR responsibility.

2.11. All 51 FW EWIR Organizations:

- 2.11.1. Develop unit checklists based on this instruction to assist in accomplishing EWIR events.
- 2.11.2. Provide a list of unit contacts trained in EWIR.
- 2.11.3. Notify Wing ECP when contact information changes.
- 2.11.4. Notify Wing ECP when unable to maintain a secure communications medium such as SIPRNET, STU-III/STE, or KY-68 phone line.

### 3. EWIR Flow:

- 3.1. An EWIR event normally starts with the arrival of a SB or PW message via the 51 FW/PW classified DMS e-mail account. This account is checked daily by the Wing ECP or alternate event coordinators during normal duty hours. The 51 CS/Helpdesk will monitor the 51 FW/PW account after hours and contact the Wing ECP if a high priority message is received. If the Wing ECP is unavailable, the 51 CS/Helpdesk will contact the next person on the EWIR Event Coordinator letter. The contacted individual will then assume event coordinator responsibilities. The normal flow and definition of EWIR messages expected by the 51 FW are as follows:

- 3.1.1. System Impact Message (SIM): EWIR message that describes parametric changes to threats and details what effect the changes will have on a particular aircraft EW system. Maintenance organizations should prepare to reprogram the identified EW systems by gathering the required equipment and ensuring they have access to SIPRNET and the MSEWDDS.
  - 3.1.2. Reprogramming Impact Message (RIM): EWIR message that normally follows a SIM that details how the Reprogramming Center plans to compensate for the change in the threat and how the reprogramming actions affect a particular EW system. A Time Compliance Technical Order (TCTO) or Maintenance Instruction Message (MIM) may also arrive to provide detailed reprogramming procedures for maintenance personnel. Maintenance organizations should follow the

procedures contained in the MIM (if applicable) and load the software identified in the RIM, MIM, and TCTO into their reprogramming equipment.

3.1.3. Implementation Message (IMP): EWIR message providing authorization from higher headquarters to reprogram the affected EW systems. However, maintenance organizations will not reprogram aircraft and ECM pods without approval from the Wing ECP or alternate event coordinator. The Wing ECP or alternate event coordinator will brief the 51 OG/CC on the effect of the EWIR and determine the appropriate time to load the affected EW system based on current real-time conditions. 51 OG/CC approval will be disseminated by the event coordinator.

3.2. The interval between messages can vary from a few hours during a SB exercise to several months for a PW dealing with a routine software upgrade. Following the RIM, reprogramming software will be available on the MSEWDDS.

3.3. The event coordinator will follow the 51 FW EWIR Event Coordinator Checklist found in Attachment 2, and monitor the reprogramming process. All 51 FW EWIR organizations will follow instructions given by the event coordinator and applicable EWIR messages provided to them. Verbal instructions from the event coordinator are all that are required to perform steps in the EWIR process.

3.4. Time permitting, the event coordinator will make an effort to provide a copy of the EWIR messages to all 51 FW EWIR organizations. Both the event coordinator and the Squadron ECP, as a back-up, should provide a copy of the appropriate reprogramming software to affected maintenance organizations.

3.5. The 51 FW EWIR process is designed to be flexible and survivable, and as such maintenance organizations will be prepared to aid other sections with their reprogramming activity by providing extra equipment and personnel that are trained and compatible with the affected EW system.

3.6. All units will compile their reprogramming times, pertinent actions, and problems encountered when reprogramming ceases and pass this information to the Wing ECP and the Wing Avionics Manager and MOC as soon as possible. The 51 FW Form 101 and the 51 FW Form 102 will be used to annotate this data.

3.7. The event coordinator will use the compiled data to generate the Unit Loading Message (ULM). For a PW, the ULM should be generated when the readily available aircraft or ECM pods are reprogrammed. A statement will be included in the ULM explaining why the remaining units were not reprogrammed and when the reprogramming is projected to be complete. For a SB, the ULM will be composed when the required number of systems is reprogrammed. The event coordinator will inform the 51 OG/CC and MOC when reprogramming is complete.

**4. Forms Prescribed:** 51 FW Forms 101 (EF), **EWS Section ALQ-184 EA POD or AIS ALR-69 RWR Tracking Table** and 51 FW Form 102 (EF), **25 FS/36 FS Aircraft/System Tracking**.

MAURICE H. FORSYTH, Brigadier General, USAF  
Commander

**Attachment 1****EWIR PHONE LIST**

AGENCY	CONTACT	OFFICE SYMBOL	PHONE #
51st Operations Group Commander	Same	51 OG/CC WOC TAC Phone AWOC TAC Phone	6604*/1467 4247-045 4247-042
Mission Director	Same	WOC TAC Phone AWOC TAC Phone	4247-035 4247-155
51 FW Electronic Combat Pilot (ECP)	Same	51 OSS/OSP	4479*/5788
51 CS/Helpdesk	Shift Supervisor	51 CS/SCBBH	4291*/5565
Maintenance Operations Center (MOC)	Senior Coordinator	51 MOS/MXOOM	2963*/4105
25 FS Electronic Combat Pilot (ECP)	Same	25 FS/DOW	5112*/5077
25 AMU Specialist Section	Any Avionics NCO	51 AMXS/MXAAS	5112*/8127
36 FS Electronic Combat Pilot (ECP)	Same	36 FS/DOW	9133*/8469
36 AMU Specialist Section	Any Avionics NCO	51 AMXS/MXABS	2621*/2649
Electronic Warfare Systems Section (EWS)	Shift Supervisor	51 MXS/MXMVE	6648*/8584*
Wing Avionics Manager	Same	51 MXG/MXQ	3027

\* STU-III/STE

- Contact the 51 FW ECP with any phone number changes.

**Attachment 2****51 FW EWIR EVENT COORDINATION CHECKLIST**

Before beginning the EWIR process, the event coordinator must use any secure means available to pass information between all the effected organizations in a timely manner. This includes, but is not limited to STU-III/STE, KY-68 TAC phone, SIPRNET, and classified couriers. Attachment 1 of includes a list of phone numbers that are useful in the process. Only the UNCLASSIFIED subject line may be released over non-secure means, but OPSEC may place greater restrictions that must be considered.

**A2.1.** \_\_\_\_\_ Check the 51 FW-PW DMS account on a configured SIPRNET computer for new EWIR messages daily. When a new message arrives, reply to sender that the message has been received and print the message. The CS/Helpdesk may also make notifications during non-duty hours that a high priority DMS message has arrived. Messages may also be provided as exercise inputs during CEREs or IRREs.

**A2.2.** \_\_\_\_\_ Read the SUBJECT line and determine the message type. The message should be one of the following: a System Impact Message (SIM), a Maintenance Instruction Message (MIM), a Reprogramming Impact Message (RIM), or an Implementation Message (IMP).

A2.2.1. SIMs describe the impact of threat changes on an EW system and recommends interim corrections.

A2.2.2. MIMs provide maintenance with uploading instructions and changes for an EW system.

A2.2.3. RIMs describe how software changes affect an EW system and give the impact of not implementing the change.

A2.2.4. IMPs provide higher headquarters permission to load software into associated equipment.

**A2.3.** \_\_\_\_\_ Review the message and determine if the message is for a SB or a PW. If the message is for a SB, proceed with the urgency normally associated with an exercise, and go to item 5. If the message is for a PW, proceed to item 4.

**A2.4.** \_\_\_\_\_ Determine the urgency associated with the PW message. ROUTINE messages may be dealt with in the normal day-to-day operations of the wing, but IMMEDIATE messages must be performed as soon as possible. If required, contact the appropriate squadron ECP for help in determining the significance of the new software. Helpful home phone numbers can be found in the SB/PW book in the Wing Weapon and Tactics library. If the message is IMMEDIATE, proceed to item number 5. If the PW message is ROUTINE, wait till the next duty day (assuming you are running this checklist after duty hours) and then proceed to number 5.

**A2.5.** \_\_\_\_\_ Brief the 51 OG/CC on the impact of the SB/PW on aircraft systems. DO NOT load any software without OG/CC permission and an IMP message.

**A2.6.** \_\_\_\_\_ Contact the Mission Director (if the WOC is operating) and inform them a SB/PW is in progress.

**A2.7.** \_\_\_\_\_ Contact the affected FS/CC, DO, and/or TOP 3 concerning the effect of the SB/PW. Also, provide a copy of the message to Sq/ECP, and remind them to brief the SB/PW to the squadron.

**A2.8.** \_\_\_\_\_ Contact the Wing Avionics Manager and inform them a SB/PW is in progress.

**A2.9.** \_\_\_\_\_ Contact 51 MOS/MXOOM (the MOC) and inform them that an SB/PW is in progress. If loading software, remind them to keep track of reprogramming start and stop times and which systems have been reprogrammed.

**A2.10.** \_\_\_\_\_ Contact the appropriate maintenance organization and give them a copy of the message. If loading software, remind them to contact MOC with start and stop times, and to track the reprogramming process by using 51 FW Forms 101 or 102 as appropriate.

A2.10.1. \_\_\_\_\_ 51 MXS/MXMVE (EWS Shop) for ALQ-184.

A2.10.2. \_\_\_\_\_ 51 AMXS/MXAAS (25 AMU Specialist Section) for ALQ-184, ALR-69, ALE-40, or ALQ-213.

A2.10.3. \_\_\_\_\_ 51 AMXS/MXABS (36 AMU Specialist Section) for ALQ-184, ALR-56M, ALE-47 or ALE-50.

**A2.11.** \_\_\_\_\_ If the message is a MIM, SIM, or RIM, the job is now complete. If the message is an IMP, proceed to step 12.

**A2.12.** \_\_\_\_\_ Inform the 51 OG/CC when reprogramming is complete. The 51 FW goal is to have the first unit reprogrammed within 2 hours of the event coordinator briefing the 51 OG/CC.

**A2.13.** \_\_\_\_\_ Collect the 51 FW Forms 101 and 102 from the appropriate maintenance units and compose the Unit Loading Message (ULM) IAW AFI 10-703.